



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/765,135

01/18/2001

Wolfgang Schulz

SCHULZ, W-1-CIP

7822

25889

7590

09/12/2002

WILLIAM COLLARD  
COLLARD & ROE, P.C.  
1077 NORTHERN BOULEVARD  
ROSLYN, NY 11576

EXAMINER

BEHREND, HARVEY E

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 09/12/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/765735

Applicant(s)

Examiner

Group Art. Unit

3041

i0

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-9 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-9 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 449
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

There is no adequate description nor enabling disclosure of materials suitable for each of the enclosures, of wall thicknesses for each of the enclosures, of the amount of spacing between each of the enclosures and, of what initially maintains each of the enclosures in their predetermined spaced apart locations (there is also no adequate description nor enabling disclosure of how and in what manner, each of these features may be determined).

There is no adequate description nor enabling disclosure of how and in what manner, an enclosure is "removable" by being guided "in a controlled way to the outside" as set forth in the specification on page 10 (there is also no adequate description nor enabling disclosure of what all is meant by or is encompassed by the terms "in a controlled way" and, "outside").

There is no adequate description nor enabling disclosure of how and in what manner, the inner absorber enclosurer may form a "semicircle adjacent to the outer absorber enclosure" (see the specification on page 11 lines 7+). Furthermore, it is not clear how the inner enclosure can be "adjacent" the outer enclosure since this embodiment has a middle enclosure, i.e. three enclosures.

There is no adequate description nor enabling disclosure of a “limiting device” made of an “elastic and heat-resistant material” which is attached from the inside to the outer absorber encloser (see the bottom of page 12 of the specification).

There is no adequate description nor enabling disclosure of how and in what manner, the enclosers can be formed of movable half shells (see the specification at the top of page 13).

There is also no adequate description nor enabling disclosure of how and in what manner, these half shells are pressed against the absorber by a mechanical element such as by springs or other elastic intermediate elements, and removed under the pressure of the absorber from the starting position and pressed outwardly.

There is no adequate description nor enabling disclosure of how and in what manner, the enclosures can be formed of a plurality of “part segments” (see page 14 of the specification) nor even what all is meant by and is encompassed by the term “part segment”.

There is no adequate description nor enabling disclosure of the embodiment referred to in lines 12-18 of page 14 i.e., that the “use of several part segments permits easier handling, and by providing the part segments or at least one part segment that is inserted first with different dimensions, the abutting surfaces of adjacent absorber enclosures will not be disposed directly next to each other, which avoids creating a weak point.”

Additionally, there is insufficient disclosure as to how and in what manner, adjacent enclosures can have “abutting surfaces”, especially since they are spaced from one another.

There is no adequate description nor enabling disclosure of how and in what manner, a mechanical resistance is formed for compressing and containing the absorber, after the enclosure is removed from its starting position (see claim 1).

There is no adequate description nor enabling disclosure of how and in what manner, the “dimensions of the inner absorber enclosure are selected in such a way that the inner absorber enclosure receives preset sintered absorber tablets” (see claim 5).

Furthermore, the disclosure is insufficient as to what the “dimensions” have to do with the encloser receiving preset sintered absorber tablets nor, even what is a “preset” sintered tablet.

There is no adequate description nor enabling disclosure of what (if anything) distinguishes a control element for a boiling water reactor, from a control rod for a pressurized water reactor.

There is no adequate description nor enabling disclosure of how and in what manner, either a whole BWR or a PWR, can actually be just a component of a control element as in claims 8 and 9.

The specification on page 16 improperly refers to a Fig. 3a (no such figure is present).

3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite and incomplete, particularly in failing to adequately define all of the requisite components of the control element and their interrelationships.

The claims contain statements about intended uses, capabilities or structure which may result upon the performance of future acts. However, said statements are not positive structural limitations and in this sense fail to comply with the requirements of the statute in failing to distinctly claim the actual invention; In re Collier, 158 USPQ 266.

The claims contain functional phrases or clauses such as the "wherein" clauses, the content of which does not inherently follow from the actual structure recited. Thus, the scope of the claims and/or the metes and bounds thereof cannot be determined. Said clauses accordingly raise a question as to the limiting effect of the language therein, on the claims (see MPEP 2106 II, C).

Claims such as claims 8 and 9, are vague, indefinite, misdescriptive and inaccurate in referring to a whole BWR or PWR as being no more than just a component of a control element.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of claim 1 "a respective absorber enclosure is removable from a starting position and a mechanical resistance is formed for compressing and containing the absorber", the outer enclosure only partly surrounding the middle encloser (claim 2), the outer encloser completely surrounding and enclosing the inner encloser (claim 3), the BWR of claim 8 and, the PWR of claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by any of Dietrich et al, Kaufman, Jr. et al, Benzler et al, or McCorkle et al.

In Kaufman, Jr. et al, note the plurality of nested arrangements in Fig. 6 (the claimed absorber reads on the innermost element 102 and the enclosures read on the surrounding nested arrangement of elements 102) (note that the claim language does not preclude the enclosures from containing an absorber material) (further, it is noted that even stainless steel has been used as a neutron absorber).

In Dietrich et al, note the spaced apart arrangement of elements in Fig. 4.

In Benzler et al, note Fig. 5 which shows four nested tubes which can be surrounded by tube 10 (the claimed absorber reads on the innermost tube).

In McCorkle et al, note Fig. 9 (the absorber is element 93).

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by either Williams et al or Kurihara et al.

In Williams et al, note absorber 20, inner encloser 24 or 23, the outer ring of 5 elements represents another encloser and element 25 is the outer encloser.

In Kurihara et al, note Fig. 1, the absorber is inside the cladding 24 (the inner encloser) element 25 is another encloser, 32 is another encloser, the ring of rod shaped elements surrounding the central rod represents another encloser (see Fig. 2).

8. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Dietrich et al, Williams et al or Kurihara et al.

As to claims 6 and 7, the use of boron carbide as a neutron absorber at a density less than 70% of theoretical density, is a conventionally known expedient in the art and hence obvious. Note MPEP 2144.03.

As to claims such claims 8 and 9, these claims do not recite any structure specific to a particular type of nuclear reactor. The control elements of the references are inherently capable of being utilized in any type of nuclear reactor including a BWR or PWR.

If the reference to a BWR or PWR is being used as a statement of intended or desired use, note that such statements do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 152 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2<sup>nd</sup> 1647.

See MPEP 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2<sup>nd</sup> 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

9. The other references cited further illustrate pertinent art.

Art Unit: 3621

In the 7/19/01 IDS, the references designated as AA, AB, AL, AM, AN and the first and third listed literature references have not been considered since copies were not provided as is required.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harvey Behrend whose telephone number is (703) 305-1831.

The examiner can normally be reached on Tuesday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-4195.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Behrend/kl  
August 16, 2002



HARVEY E. BEHREND  
PRIMARY EXAMINER